1. A device for creating an image of a fingerprint pattern on an image sensor, the device comprising:

an optical plate including:

a finger field to which a finger is pressed to create the fingerprint pattern,

an array of microreflectors covering part of the optical plate, the microreflectors being distributed along a base surface,

an illuminating tool that illuminates the finger field to create imaging light rays relating to the fingerprint pattern; and

an imaging lens receiving the imaging light rays reflected from the array of microreflectors to create the fingerprint pattern image at a location external to the optical plate, the imaging lens including an aperture stop that defines an aperture light beam of the reflected imaging light rays forming the image of the fingerprint pattern;

in which the microreflectors are inclined to the base surface so that an area of a projection of the microreflectors on the base surface taken along a path of the imaging light rays reflected at the surface of the microreflectors and passing through the aperture stop exceeds an area of a projection of the microreflectors on the base surface taken along a path of the reflected imaging light rays incident to the surface of the microreflectors.

2. The device of claim 1 in which the projection area of the microreflectors to the base surface, along the path of the reflected imaging light rays, covers uninterruptedly the base surface.

3. The device of claim 1 in which a slope of a microreflector, relative to the base surface, varies with a position of the microreflector at the base surface.

4. The device of claim 1 in which a coherence interval of light radiated from the illuminating tool is less than the optical path length difference between reflected imaging light rays from different microreflectors.

5. The device of claim 1 in which the illuminating tool illuminates the finger field from two opposite sides.

6. The device of claim 1 in which the base surface is positioned such that a difference of distances to the finger field from an edge of the base surface farthest from the finger field and an edge of the base surface nearest to the finger field ranges from about 30 to about 50 percent of the distance between the edges.

7. The device of claim 1 in which an edge of the base surface farthest from the finger field is nearest to the imaging lens.

8. The device of claim 7 in which the microreflectors are formed of V-shaped grooves, the open ends of which face the imaging lens.

9. The device of claim 8 in which the period of the microreflectors is varied based on a cross-section of the aperture light beam such that a resolution of the device remains substantially constant.

10. The device of claim 9 in which the period of spacing ranges from about 1.5 to about 5.

11. The device of claim 7 in which the V-shaped grooves are in a concave arrangement relative to the imaging lens.

12. The device of claim 7 in which the V-shaped grooves are in a convex arrangement relative to the imaging lens.

13. The device of claim 7 in which the microreflectors are planar.

14. The device of claim 1 in which the base surface is inclined to the finger field by an angle that ranges from about 20 to about 30 degrees.

15. An electronic apparatus comprising:

a device to create an image of a fingerprint pattern on an image sensor, the device comprising:

an optical plate including:

a finger field to which a finger is pressed to create the fingerprint pattern,

an array of microreflectors covering part of the optical plate, the microreflectors being distributed along a base surface,

an illuminating tool that illuminates the finger field to create imaging light rays relating to the fingerprint pattern;

an imaging lens receiving the imaging light rays reflected from the array of microreflectors to create the fingerprint pattern image at a location external to the optical plate, the imaging lens including an aperture stop that defines an aperture light beam of the reflected imaging light rays forming the image of the fingerprint pattern;

in which the microreflectors are inclined to the base surface so that an area of a projection of the microreflectors on the base surface taken along a path of the reflected imaging light rays and passing through the center of the aperture stop exceeds an area of a projection of the microreflectors on the base surface taken along a path of the imaging light rays incident to the surface of the microreflectors; and

a housing shaped to hold electronic components for operation of the electronic apparatus and shaped to retain the device, the housing including an outer surface;

in which the finger field lies flush with the outer surface of the housing when the device is retained by the housing.

16. The apparatus of claim 15 in which the device includes a step that permits the housing to retain the device.

17. The apparatus of claim 16 in which the housing includes a recess and the device includes a tab that fits into the housing recess to retain the device.

18. A device for creating an image of a fingerprint pattern on an image sensor, the device comprising:

an optical plate including:

a finger field to which a finger is pressed to create the fingerprint pattern,

an array of microreflectors covering part of the optical plate, the microreflectors being distributed along a base surface,

an illuminating tool that illuminates the finger field to create imaging light rays relating to the fingerprint pattern; and

an imaging lens receiving the imaging light rays reflected from the array of microreflectors to create the fingerprint pattern image at a location external to the optical plate, the imaging lens including an aperture stop that defines an aperture light beam of the reflected imaging light rays forming the image of the fingerprint pattern;

in which the microreflectors are inclined to the base surface so that an angle between the normal to the base surface and an imaging light ray incident to a microreflector is less than an angle between the normal to the base surface and that imaging light ray reflected from the microreflector.

19. A device for creating an image of a fingerprint pattern on an image sensor, the device comprising:

an optical plate including:

a finger field to which a finger is pressed to create the fingerprint pattern,

an array of microreflectors covering part of the optical plate, the microreflectors being distributed along a base surface and being shaped like V-shaped grooves,

an illuminating tool that illuminates the finger field to create imaging light rays relating to the fingerprint pattern; and

an imaging lens receiving the imaging light rays reflected from the array of microreflectors to create the fingerprint pattern image at a location external to the optical plate, the imaging lens including an aperture stop that defines an aperture light beam of the reflected imaging light rays forming the image of the fingerprint pattern;

wherein the side of the grooves facing the imaging lens receives and reflects the aperture light beam.

20. An electronic apparatus comprising:

a device for creating an image of a fingerprint pattern on an image sensor, the device comprising:

an optical plate including:

a finger field to which a finger is pressed to create the fingerprint pattern,

an array of microreflectors covering part of the optical plate, the microreflectors being distributed along a base surface,

an illuminating tool that illuminates the finger field to create imaging light rays relating to the fingerprint pattern;

an imaging lens receiving the imaging light rays reflected from the array of microreflectors to create the fingerprint pattern image at a location external to the optical plate, the imaging lens including an aperture stop that defines an aperture light beam of the reflected imaging light rays forming the image of the fingerprint pattern;

in which the microreflectors are inclined to the base surface so that an area of a projection of the microreflectors on the base surface taken along a path of the reflected imaging light rays and passing through the aperture stop exceeds an area of a projection of the microreflectors on the base surface taken along a path of the imaging light rays incident to the surface of the microreflectors; and

a housing shaped to hold electronic components for operation of the electronic apparatus and shaped to retain the device;

in which the optical plate operates simultaneously as an indicator surface of the housing and as a finger field.

21. An electronic apparatus comprising:

a device for creating an image of a fingerprint pattern on an image sensor, the device comprising:

an optical plate including a finger field to which a finger is pressed to create the fingerprint pattern,

a reflector,

an illuminating tool that illuminates the finger field to create imaging light rays relating to the fingerprint pattern, and

an imaging lens receiving the imaging light rays reflected from the reflector to create the fingerprint pattern image at a location external to the optical plate, the imaging lens

including an aperture stop that defines an aperture light beam of the reflected imaging light rays forming the image of the fingerprint pattern; and

a housing shaped to hold electronic components for operation of the electronic apparatus and shaped to retain the device;

in which the optical plate operates simultaneously as an indicator surface of the housing and as a finger field.

22. A device for creating an image of a fingerprint pattern on an image sensor, the device comprising:

an optical plate including:

a finger field to which a finger is pressed to create the fingerprint pattern,

an array of microreflectors covering part of the optical plate, the microreflectors being distributed along a base surface,

an illuminating tool that illuminates the finger field to create imaging light rays relating to the fingerprint pattern; and

an imaging lens receiving the imaging light rays reflected from the array of microreflectors to create the fingerprint pattern image at a location external to the optical plate, the imaging lens including an aperture stop that defines an aperture light beam of the reflected imaging light rays forming the image of the fingerprint pattern;

in which the microreflectors are inclined to the base surface so that a cross-section of image light rays incident to the microreflectors is discontinuously greater than a cross-section of the imaging light rays reflected from the microreflector.